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ABSTRACT

Since the balanced literacy program presently mandated in California makes literature an integral part of the curriculum and leaves even less time for study of the sciences, this annotated bibliography provides some recommended literature together with the science concepts that evolve from those books. The bibliography also offers cooking recipes that young children can prepare in a classroom setting--all the recipes relate to the literature titles and the science concepts therein. The fiction and non-fiction titles in the bibliography can be located in publications of the National Council of Teachers of English, the International Reading Association, and/or in one or more of the California literature frameworks. Titles in the bibliography are divided into 3 categories: life sciences (18 titles), earth sciences (19 titles), and physical sciences (12 titles). Attached is a list of six cook books recommended for children. (NKA)

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LITERATURE, SCIENCE, AND COOKING IN THE PRIMARY GRADES

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The 1996 National Assessment of Educational Progress surveyed science achievement in 44 states and territories. California scored in the bottom six and the students tested included fourth graders. The latter group apparently did not enough time to develop a solid science background in grades K-3, due to increased pressures from the community and the parents to improve literacy skills in those grades.

The balanced literacy program presently mandated in California and elsewhere makes literature an integral part of the primary curriculum. However, this leaves even less time for the study of content areas such as science--unless literature and science can be combined in a way that maintains the attention and interest of young children.

Consequently, this paper will list titles (with brief annotations) of some recommended literature together with the science concepts that evolve from those books. Each of the primary titles (of fiction and non-fiction) can be located in publications of the National Council of Teachers of English, the International Reading Association and/or in one or more of the California literature frameworks. Since cooking is a pleasant, non-sexist activity, names of recipes that young children can prepare in a classroom setting (under adult supervision) will also be included. All of these recipes relate to the literature titles and the science concepts therein.

For ease of use, the titles will be divided into three categories: Life Sciences, Earth Sciences, and Physical Sciences.

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BEST COPY AVAILABLE

LIFE SCIENCES

(biology, zoology, botany, physiology)

Carle, E. . A HOUSE FOR HERMIT CRAB (Scholastic, 1987). A crab outgrows its shell and must find a new home.

Science Concept: Some animals have shells for protection.

Name of Recipe: Tuna-Stuffed Shells.

Ehlert, L. PLANTING A RAINBOW (Harcourt, 1988). Seeds and bulbs are properly planted and the resulting flowers form a bright rainbow of color.

Science Concept: Plants obtain nutrients from the soil.

Name of Recipe: Mud Pudding.

Flack, M. ASK MR. BEAR (Macmillan, 1956). To find a present for his mother's birthday, Danny asks several animals for ideas but has no success until he asks Mr. Bear.

Science Concept: Bears are large mammals that are covered with hair.

Name of Recipe: Bear Biscuits

Gibbons, G. MONARCH BUTTERFLY (Holiday House, 1989). Introduced are the life cycle, migration patterns, and physical characteristics of the monarch.

Science Concept: A butterfly has its own life cycle and goes through metamorphosis from a caterpillar.

Name of Recipe: Butterfly Bites

Gibbons, G. THE SEASONS OF ARNOLD'S APPLE TREE (Harcourt, 1984). Arnold's apple tree is useful throughout the year.

Science Concept: Apples are fruits that grow on trees.

Name of Recipe: Round Red Rings

Parker, N., & Wright, J. BUGS (Morrow, 1988). Solid facts and large scientific drawings of 16 common insects are provided.

Science Concept: An insect is made of three body parts: head, abdomen, and thorax.

Name of Recipe: Ants on a Log.

Payne, E. KATY NO- POCKET (Houghton, 1944). Until Katy the kangaroo finds an apron with pockets, she is very sad since she has no way in which to carry her baby.

Science Concept: Marsupials are mammals whose young are raised in a pouch in the mother's body.

Name of Recipe: Pita Pocket Sandwiches

Watts. B. TOMATO (Silver Burdett, 1990). Color photographs show the growth of a tomato plant above and below the ground.

Science Concept: Plants need air, water, soil, and light to grow.

Name of Recipe: Vegetable Soup.

Other Useful Books:

Aliki. The Story of Johnny Appleseed (Prentice-Hall, 1963).

Arthur, A. Shell (Knopf, 1989).

Carle, E. The Tiny Seed (Picture Book Studio, 1987).

Carle, E. The Very Hungry Caterpillar (Putnam, 1981).

Dallinger, J. & Johnson, S. Frogs and Toads (Lerner, 1982).

Douglas, F. Vegetable Garden (Harcourt, 1991).

Johnson, S. Hermit Crabs (Lerner, 1989).

Krauss, R. The Carrot Seed (Harper, 1945).

Selsam, M. The Plants We Eat (Morrow, 1981).

Wilner, I. A Garden Alphabet (Dutton, 1991).

EARTH SCIENCES

(astronomy, geology, meteorology, oceanography)

Aliki. FOSSILS TELLS OF LONG AGO (Harper, 1990). Simple language is used to describe how various types of fossils were formed and what we have learned from studying them.

Science Concept: Fossils are a form of extinct animal organisms.

Name of Recipe: "Missing Link" Bones.

Baylor, B. EVERYBODY NEEDS A ROCK ((Aladdin, 1985). This poem describes the rules for selecting the perfect rock.

Science Concept: Soil is composed of small rocks and sand.

Name of Recipe: Sand Pudding Cups.

Bennett, B. DAY AND NIGHT (Bantam, 1988). Simple explanations are given for the earth's rotation around the sun and the resulting cycle of seasons.

Science Concept: The turning of the earth creates day and night.

Name of Recipe: Sunshine Shake.

Cole, J. THE MAGIC SCHOOL BUS: LOST IN THE SOLAR SYSTEM (Scholastic, 1990). In a fantastical field trip through the solar system, the school bus travels past the sun and around the planets. (Series book).

Science Concept: There are nine planets in our solar system.

Name of Recipe: Planet Cookies.

Hiscock, B. THE BIG ROCK (Macmillan, 1988). The book traces the origins of a granite rock located near the mountains and tells how it reveals data about the earth's history.

Science Concept: Crystals are a formation of the earth.

Name of Recipe: Rock Candy.

Lewis, T. HILL OF FIRE (Harper, 1971). Fictionalized version of the true eruption of a volcano in Mexico describes the family whose land was involved.

Science Concept: One major group of rocks is igneous rock, formed through the cooling of magma/lava.

Name of Recipe: Igneous Rock Fudge.

McNulty, F. HOW TO DIG A HOLE TO THE OTHER SIDE OF THE WORLD (Harper, 1990). As a boy digs a hole to China, he finds unusual substances and layers between the earth's surface and its core.

Science Concept: The Earth is made of three basic layers: the core(inner and outer), the mantle and the crust. Between the mantle and crust are pockets of melted rock.

Name of Recipe: Earth Parfait.

Simon, S. STORMS (Morrow, 1989). Storms are caused by atmospheric conditions and are important in maintaining the world's climate.

Science Concept: Thunder is the sound made by expanding air heated by lightning.

Name of Recipe: Grandma's Thunder Cake.

Wiesner, D. HURRICANE (Houghton, 1990). A family prepares for and survives a hurricane.

Science Concept: A hurricane is a tropical cycle usually accompanied by rain, wind, thunder, and lightning.

Name of Recipe: Cyclone Smoothies

Other Useful Books:

Aliki. Digging Up Dinosaurs (Harper, 1981).

Carrick, C. Big Old Bones: A Dinosaur Tale (Ticknor & Fields, 1989).

Cole, J. The Magic School Bus: Inside the Earth (Scholastic, 1987)

Freeman, D. Dandelion (Puffin Books, 1964).

Gerson, M. How Night Came From the Sea (Little, Brown, 1994).

Hodges, J. Hidden in Sand (Scribners, 1994).

Lewis, T. Volcanoes (Morrow, 1988).

Marzollo, J. Sun Song (HarperCollins, 1995).

Polacco, P. Thunder Cake (Philomel, 1990).

Simon, S. Hills of Fire (Harper, 1988).

PHYSICAL SCIENCES

((physics, chemistry, and the related sciences)

Calhoun, M. HOT AIR HENRY (Morrow, 1984). Henry the cat accidentally takes off in a hot air balloon on a solo flight; fortunately, he lands safely and returns home.

Science Concept: Heat causes some matter to expand.

Name of Recipe: Grand Marshmallows.

Galdone, P. THE GINGERBREAD BOY (Houghton, 1983). A large gingerbread cookie comes to life and runs through the countryside.

Science Concept: Heat can make some liquids turn into solids.

Name of Recipe: Gingerbread Men.

Jaspersohn, W. ICE CREAM (Macmillan, 1988). Photographs of Ben and Jerry's commercial plant in Vermont describe how ice cream is made.

Science Concept: Freezing is a process of changing a liquid into a solid.

Name of Recipe: Ice Cream in a Bag.

Morris, A. BREAD, BREAD, BREAD (Lothrop, 1989). Photographs show the differences and commonalities of bread making and bread uses by various cultures around the world.

Science Concept: Yeast causes bread to rise or expand.

Name of Recipe: Braided Bread.

Rius, M. & Parramon, J. THE FOUR ELEMENTS: AIR (Barrons,1984). Using pictures and words that children understand, the authors describe air. (Series book).

Science Concept: Of the three forms of matter--solid, liquid and gas--air is a form of gas.

Name of Recipe: Airy Dessert.

Vendrell, C. & Parramon, J. THE FOUR ELEMENTS: WATER (Barrons, 1984). Water is described in terms and with pictures that children can understand. (Series book).

Science Concept: The density and shape of an object will determine whether it will float or sink.

Name of Recipe: Sink and Float Jello.

Other Useful Books:

Adams, A. The Great Valentine's Day Balloon Race (Macmillan, 1980).

dePaola, T. The Popcorn Book (Holiday House, 1978).

Gibbons, G. Fire! Fire! (Harper, 1987).

Mitgutsch, A. From Milk to Ice Cream (Carolrhoda, 1981).

Selsam, M. Popcorn (Morrow, 1976).

Simon, S. Soap Bubble Magic (Lothrop, 1985).

RECOMMENDED COOK BOOKS FOR CHILDREN

Scobey, J. The Fannie Farmer Junior Cookbook. Illustrated by Patience Brewster. (Little Brown, 1993).

Supraner, R. Quick and Easy Cookbook. Illustrated by Renzo Barto. (Troll, 1981).

Wilkes, A. The Children's Step-by-Step Cookbook. Photographs by Dave King. (Dorling Kindersley, 1994).

Wilkes, A. My First Cookbook. Illustrated.(Knopf, 1989).